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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/859,681	09/24/2001	Sung Sik Bae	053785-5015	3359
9629 7590 10/06/2003 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			EXAMINER ERDEM, FAZLI	
			ART UNIT 2826	PAPER NUMBER

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	09/859,681	BAE, SUNG SIK	
	Examiner	Art Unit	
	Fazli Erdem	2826	

-- Th MAILING DATE of this communication appears on th cover sh t with th correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14, 17 and 24 is/are rejected.
- 7) ☒ Claim(s) 12, 13, 15, 16, 18-23 and 25-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 12, 13, 15, 16, 18-23, 25-28 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (GB 2,315,245) in view of Rho et al. (6,057,896) further in view of TeVelde (5,238,435) further in view of Kubo et al. (6,330,047) further in view of Keyser (5,485,05) further in view of Tanaka et al. (6,137,559).

Regarding Claims 1-7 and 17, Kim et al. disclose etching a hole in an organic passivation layer for an LCD where a contact hole in an organic passivation layer over an electrode is plasma etched through a superimposed inorganic dielectric layer and a photoresist. Alternatively the organic passivation layer is partially etched until a thin layer remains by one type of gas and completely etched by another type of gas followed by wet or dry etching. Kim et al. fail to disclose the required insulating/passivation structure, etching holes, concave/convex insulating, concave/convex insulating structure with respect to etching structure and sealing

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pattern structure. However, Rho et al. disclose liquid crystal displays using organic insulating material for a passivation layer and/or a gate insulating layer and manufacturing methods thereof where the required insulating layer/passivation structure is disclosed. Furthermore, TeVelde discloses a liquid crystal display device and method of manufacturing such a device where the required etching holes disclosed. Kubo et al. disclose a liquid crystal display device and method of fabricating the same where the required concave/convex insulating structure is disclosed. Keyser discloses an active matrix electroluminescent display having increased brightness and method of making the display where the required convex/concave insulating structure with respect to etching is disclosed. Tanaka et al. disclose method of manufacturing a liquid crystal display device using an airtight seal pattern where the required seal pattern structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required insulating/passivation structure, etching holes, concave/convex insulating, concave/convex insulating structure with respect to etching structure and sealing pattern structure in Kim et al. as taught by Rho et al., TeVelde, Kubo, Keyser, and Tanaka respectively in order to have a liquid crystal display device with better performance.

3. Claims 8-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (GB 2,315,245) in view of Rho et al. (6,057,896) further in view of TeVelde (5,238,435) further in view of Kubo et al. (6,330,047) further in view of Keyser (5,485,05) further in view of Tanaka et al. (6,137,559) further in view of Cordes et al. (6,332,569).

Regarding Claims 8-10, Kim et al. disclose etching a hole in an organic passivation layer for an LCD where a contact hole in an organic passivation layer over an electrode is plasma

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etched through a superimposed inorganic dielectric layer and a photoresist. Alternatively the organic passivation layer is partially etched until a thin layer remains by one type of gas and completely etched by another type of gas followed by wet or dry etching. Kim et al. fail to disclose the required insulating/passivation structure, etching holes, concave/convex insulating, concave/convex insulating structure with respect to etching structure, sealing pattern structure, and adhesion structure. However, Rho et al. disclose liquid crystal displays using organic insulating material for a passivation layer and/or a gate insulating layer and manufacturing methods thereof where the required insulating layer/passivation structure is disclosed. Furthermore, TeVelde discloses a liquid crystal display device and method of manufacturing such a device where the required etching holes disclosed. Kubo et al. disclose a liquid crystal display device and method of fabricating the same where the required concave/convex insulating structure is disclosed. Keyser discloses an active matrix electroluminescent display having increased brightness and method of making the display where the required convex/concave insulating structure with respect to etching is disclosed. Tanaka et al. disclose method of manufacturing a liquid crystal display device using an airtight seal pattern where the required seal pattern structure is disclosed. Cordes et al. disclose an etched glass solder bump transfer for flip chip integrated circuit devices where the required adhesion structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required insulating/passivation structure, etching holes, concave/convex insulating, concave/convex insulating structure with respect to etching structure, sealing pattern structure, and adhesion structure in Kim et al. as taught by Rho et al., TeVelde,

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Kubo, Keyser, Tanaka, Cordes et al. respectively in order to have a liquid crystal display device with better performance.

4. Claim 11 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (GB 2,315,245) in view of Rho et al. (6,057,896) further in view of TeVelde (5,238,435) further in view of Kubo et al. (6,195,140) further in view of Keyser (5,485,05) further in view of Tanaka et al. (6,137,559).

Regarding Claims 11 and 24, Kim et al. disclose etching a hole in an organic passivation layer for an LCD where a contact hole in an organic passivation layer over an electrode is plasma etched through a superimposed inorganic dielectric layer and a photoresist. Alternatively the organic passivation layer is partially etched until a thin layer remains by one type of gas and completely etched by another type of gas followed by wet or dry etching. Kim et al. fail to disclose the required method of making insulating/passivation structure, etching holes, concave/convex insulating structure, sealing pattern structure. However, Rho et al. disclose liquid crystal displays using organic insulating material for a passivation layer and/or a gate insulating layer and manufacturing methods thereof where the required method of making insulating layer/passivation structure is disclosed. Furthermore, TeVelde discloses a liquid crystal display device and method of manufacturing such a device where the required method of making etching holes disclosed. Kubo et al. disclose a liquid crystal display device and method of fabricating the same where the required method of making concave/convex insulating structure is disclosed. Tanaka et al. disclose method of manufacturing a liquid crystal display device using an airtight seal pattern where the required seal pattern structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required method of making insulating/passivation structure, etching holes, concave/convex insulating structure, sealing pattern structure in Kim et al. as taught by Rho et al., TeVelde, Kubo, Tanaka et al. respectively in order make a liquid crystal display device with better performance.

5. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (GB 2,315,245) in view of Rho et al. (6,057,896) further in view of TeVelde (5,238,435) further in view of Kubo et al. (6,195,140) further in view of Keyser (5,485,05) further in view of Tanaka et al. (6,137,559) further in view of Cordes et al. (6,332,569).

Regarding Claims 14, Kim et al. disclose etching a hole in an organic passivation layer for an LCD where a contact hole in an organic passivation layer over an electrode is plasma etched through a superimposed inorganic dielectric layer and a photoresist. Alternatively the organic passivation layer is partially etched until a thin layer remains by one type of gas and completely etched by another type of gas followed by wet or dry etching. Kim et al. fail to disclose the required method of making insulating/passivation structure, etching holes, concave/convex insulating structure, sealing pattern structure, and adhesion structure. However, Rho et al. disclose liquid crystal displays using organic insulating material for a passivation layer and/or a gate insulating layer and manufacturing methods thereof where the required method of making insulating layer/passivation structure is disclosed. Furthermore, TeVelde discloses a liquid crystal display device and method of manufacturing such a device where the required method of making etching holes disclosed. Kubo et al. disclose a liquid crystal display device

and method of fabricating the same where the required method of making concave/convex insulating structure is disclosed. Tanaka et al. disclose method of manufacturing a liquid crystal display device using an airtight seal pattern where the required seal pattern structure is disclosed. Cordes et al. disclose an etched glass solder bump transfer for flip chip integrated circuit devices where the required method of making adhesion structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required method of making insulating/passivation structure, etching holes, concave/convex insulating structure, sealing pattern structure, and adhesion structure in Kim et al. as taught by Rho et al., TeVelde, Kubo, Tanaka et al, and Cordes et al. respectively in order make a liquid crystal display device with better performance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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NATHAN J. FORD
SUPERVISOR, PRACTICE
TECHNOLOGY
[Signature]